



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,707	11/15/2001	Alan J. Lipton	37112-175340	7303
26694	7590	09/30/2008		
VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998				
EXAMINER VO, TUNG T				
ART UNIT		PAPER NUMBER		
2621				
MAIL DATE		DELIVERY MODE		
09/30/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

09/987,707

**Applicant(s)**

LIPTON ET AL.

**Examiner**

Tung Vo

**Art Unit**

2621

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 4-12, 14-19, 21, 24, 25, 27-30, 33-35, 37-39 and 41-55 is/are pending in the application.
- 4a) Of the above claim(s) 2, 3, 13, 20, 22, 23, 26, 31, 32, 36 and 40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4-12, 14-19, 21, 24, 25, 27-30, 33-35, 37-39 and 41-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Final Drawing (PTO-846)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 02/04/08; 03/14/08; 04/11/08; 06/09/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_



## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4-6, 14-20, 24-25, 27-30, 34-35, 37-39, 41-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brill et al. (US 6,816,184) in view of Tserng (US 6,570,608) and Courtney (US 6,424,370).

Re claims 1, 4, 14-17, 25, 27, 43, 45, 50, 51-55, Brill teaches a computer-readable medium having software stored thereon for operating a video surveillance system for operating the video surveillance comprising:

(A) a code segments (e.g. fig. 8 and 16 of fig. 1) for determining identifying one or more user-defined event discriminators (e.g. selection regions of fig. 6; fig. 8), each user-defined event discriminator to detect an occurrence of a user-defined event in a video of the video surveillance system (e.g. figs. 6 and 8, user defined regions (e.g. A, B, C of fig. 6) to detect an occurrence (e.g. 106 of fig.6) in a user-defined event (e.g. enter or loiter of fig. 8) ),

(B) a code segments (12 of fig. 1) for extracting video primitives from the video (col. 4, lines 5-15) regardless of what or when event discriminators are defined, each video primitive (col. 5, lines 8-14) extracted being independent of any user-defined event described by the user-defined event discriminators wherein extracting video primitives comprises:

(1) identifying one or more objects in the video to obtain identified objects, each object being an item of interest in the video wherein identifying (col. 4, lines 51-63) one or more objects comprises at least one of:

(a) detecting one or more objects in the video (12 of fig. 1; col. 4, lines 4, lines 16-50);

(b) tracking one or more objects in the video (col. 5, lines 8-14); or

(c) classifying one or more objects in the video (col. 5, lines 8-14); and

(2) identifying at least one video primitive (col. 5, lines 8-14) for each identified object in the video independent of any user-defined event described by any user-defined event discriminator,

each video primitive describing a property (a person is in the determined area, 86 of fig. 7; fig. 8, describing a property as a person with event enter) of one of the identified object (e.g. person, a box, a briefcase, a notebook, fig. 7), each property being an observable attribute (e.g. sizes of a person, fig. 7, time in 5 second, see duration of fig. 8) of the identified object in the video; and

(C) code segments (16 of fig. 1, note the computer would obviously have code segments for identifying the detected object based on the user define) for checking the extracted video primitives against at least one of the user-defined event discriminators to determine whether any user-define events described by the checked user-defined event discriminators occurred in the video, wherein checking the extracted video primitives comprises;

(1) comparing the properties (e.g. five seconds of fig. 8; regions A, B, C, D, Y, and Z of fig. 6) of the video primitives with the description of the user-defined event of one of the user-defined event discriminator (fig. 8; col. 8, lines 35-41); and

(2) determining a user-defined event occurred in the video according to one of the user-defined event discriminators if the properties of the video primitive match the description of the user-defined event of one of the user-defined event discriminators (16 of fig. 1, fig. 8);

wherein the code segments for extracting video primitives (e.g. 12 of fig. 1) are different from the code segments for checking the extracted video primitives (e.g. 16 of fig. 1).

It is noted that Brill does not particularly teach code segments for archiving (storing) the extracted video primitives; wherein the archived video primitives are accessible without reprocessing the video as claimed.

However, Tserng teaches code segments for archiving (storing) the extracted video primitives; wherein the archived video primitives are accessible without reprocessing the video (col. 9, lines 14-46)

Taking the teachings of Brill and Tserng as a whole, it would have been obvious to one of ordinary skill in the art to modify the teachings of Tserng into Brill to allow the surveillance of the future to monitor outdoor parking lots and driveways and intelligently report when suspicious events occur.

It is noted that the combination of Brill and Tserng does not particularly disclose each user-defined event comprising: description at least one object engaged in an activity in the video, a description of at least one object engaged in an activity having one or more spatial attributes in the video, a description of at least one object engaged in an activity having one or more spatial

attributes and one or more temporal attributes in the video, the object being an item of interest in the video as claimed.

However, Courtney discloses description at least one object engaged in an activity in the video, a description of at least one object engaged in an activity having one or more spatial attributes in the video, a description of at least one object engaged in an activity having one or more spatial attributes and one or more temporal attributes in the video, the object being an item of interest in the video (see Abstract, and col. 18, lines 12-27).

Taking the teachings of Brill, Tserng, and Courtney as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Courtney into the combination of Brill and Tserng to provide the description of the object within the video sequence to easily query the identified objects within events as suggested by Courtney (col. 15, line 8-col. 15, line 18).

In response the arguments filed on 09/19/2007, the applicant argued that the events of Brill are not defined by a user and user-defined is a pre-programmed; and Brill fails to checking the extracted video primitives against at least one of the user-defined event discriminators to determine whether any user-defined events described by the checked user-defined event discriminator occurred in the video.

The examiner would like to point out that the claimed invention does not specify “user-defined” as non-preprogrammed event. The “user-defined” using the interface is described by Brill (e.g. 18 and 19 of fig. 1) as the same claimed invention (see claim 30) and Brill does not describe any pre-programmed “user defined”. Brill discloses user-defined event discriminators by selecting regions (e.g. A-C, Y, Z of fig. 6) to determine object in the event and checking the

extracted video primitives (col. 4, lines 5-15, e.g. detected objects, col. 5, lines 8-14) against at least one of the user-defined event discriminators (fig. 8; col. 8, lines 42-67) to determine whether any user-defined events (col. 8, lines 54-60) described by the checked user-defined event discriminator occurred in the video (the specified object within the specified region for a period of at least five seconds as a loiter event).

Re claims 5 and 24, Brill further teaches code segments for undertaking a response based on the checked extracted video primitives (fig. 8, response to the checked extracted video primitives, col. 9, lines 1-7).

Re claim 6, Brill further teaches wherein the response comprises initiating another sensor system (some other image detectors are used, that would be other sensor for initiating the monitoring system; col. 2, lines 54-56).

Re claims 18 and 35, Brill further discloses wherein at least one user-defined event comprises: at least one alarm (16 of fig. 1, the computer 16 could take some special action, such as producing an audible alarm).

Re claim 19, Brill further teaches wherein the video primitives are from at least one of a video sensor or another sensor (col. 2, lines 54-56).

Re claim 20, Brill further teaches the computer system comprising the computer-readable medium of claim 1 (16 of fig. 1, note the computer would obvious have the computer-readable medium).

Re claim 28, Brill further teaches wherein the apparatus comprises application-specific hardware to emulate a computer and/or software (fig. 2).



Re claims 29 and 34, Brill further teaches wherein at least one user-defined event discriminator is further checked against non-video primitives (16 of fig. 1).

Re claim 30, Brill further teaches further comprising code segments for determining identifying the one or more user-defined event discriminators using a user interface (18 and 19 of fig. 1).

Re claims 37- 39, and 44, Brill further teaches wherein the video primitives are at least seven of the following: a classification, a size, a shape, a color, a texture, a position a velocity, a speed, an internal motion, a motion, a salient motion, a feature of a salient motion, a scene change, a feature of a scene change, or a pre-defined model (cols. 4 and 5, see also fig. 8).

Re claim 41, Brill further teaches code segments for determining one or more additional user-defined event discriminators (fig. 8, the user enables to inputs different user defined event discriminators by clicking on the boxes in figure 8); and code segments for checking extracting event occurrences from the archived video primitives at least (16 of fig. 1), one of the one or more additional user-defined event discriminators (fig. 8).

Re claim 42, Brill further teaches wherein the video primitives include primitives includes at least one of the following: a size; a shape; a color; a texture; a position; a velocity; a speed; an internal motion; feature of a salient motion; or a feature of a scene change (fig. 3).

Re claim 46, Brill further teaches wherein at least one user-defined event comprises a description of at least one object engaged in an activity in the video (the object is a person (description or definition) engaged (enter), e.g. fig. 8).

Re claims 47-49, Brill further teaches wherein at least one user-defined event comprises a description of at least one object engaged in an activity having one or more spatial attributes in the video (fig. 8, regions of fig. 7).

1. Claims 7-12, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brill et al. (US 6,816,184) in view of Tserng (US 6,570,608) and Courtney (US 6,424,370) and further in view of Ito et al. (US 2001/0019357).

Re claims 7-12, and 33, Brill further teaches code segments for detecting as least one object in a source video (the camera is detecting the object, figs. 2A-2H); and

code segments for tracking the object (col. 4, lines 5-14);

wherein the code segments for detecting at least one object comprise:

code segments for detecting at least one object via motion of the object (figs. 2A-2H, there is motion of the person in a frame); and

code segments for detecting at least one object via change in a background model (fig. 2A, background model); wherein the code segments for self-calibrating (pan, tilt, or zoom of the camera) comprise:

code segments for identifying track able areas (monitored area, parking lot; col. 4, lines 30-50); and

code segments for identifying typical sizes of typical objects (how tall a person, col. 4, lines 51-63).

It is noted that the combination teaches the automatic surveillance camera system (12 of fig. 1, Tserng).

It is noted that the combination of Brill and Tserng does not particularly disclose code segments for calibrating comprise: code segments for manual calibration; code segments for semi-automatic calibration as claimed.

However, Ito teaches the object monitoring system comprises code segments for manual calibration; code segments for semi-automatic calibration ([0003]).

Therefore, taking the teachings of Brill, Tserng, and Ito as a whole, it would have been obvious to one of ordinary skill in the art to modify the teachings of Ito to allow the monitoring process can be performed continuously so that reliability of the monitoring system can be improved.

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Liang et al. (US 6,678,413) discloses system and method for object identification and behavior characterization using video analysis.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tung Vo/  
Primary Examiner, Art Unit 2621